

can access newsgroups (table 8). This represents substantial increases in the last year in the availability of resource location services (up by 33 percent from 62 percent in 1994), and World Wide Web access (up almost 300 percent compared to the 21 percent of public schools reporting the availability of any graphical user interface in 1994; reference table 8b1). While e-mail is most widely available Internet service in schools, students are most likely to have access to World Wide Web (70 percent), followed by resource location services (62 percent), and news groups (51 percent). Only 41 percent of schools provide e-mail access for students.

- Twenty-eight percent of schools with Internet access report that teachers use the wide area networks to a moderate or large extent, with 21 percent for students and 18 percent for administrators (table 9). Students in schools with high poverty use wide area networks to a lesser extent than those with relatively lower poverty—19 percent of schools in high poverty schools (71 percent or more of the students are free-lunch eligible) use wide area networks to a moderate or large extent, while 30 percent of those in low poverty schools (less than 11 percent are eligible for the lunch program) access wide area networks to this extent.
- High school students are more likely to use wide area networks than elementary students; 30 percent of high schools report a moderate to large extent of wide area network by students, compared with 17 percent in elementary schools (table 9).
- Schools manage their networks in a variety of ways. The largest percentage are managed by a part-time administrator (45 percent; table 11). Twenty-four percent indicate that someone from the district staff administers their network and 20 percent report that no single individual is responsible. Only 12 percent of schools report that their network is administered by a full-time administrator. Schools with higher levels of poverty and those with large minority enrollments were least likely to employ a full-time network administrator.

Table 1.—Number and percent of responding public schools in the study sample and estimated number and percent of public schools the sample represents, by school characteristics: 1995

School characteristic	Respondents sample		National estimate	
	Number	Percent	Number	Percent
All public schools.....	917	100	77,853	100
Instructional level				
Elementary.....	455	50	57,705	74
Secondary.....	421	46	18,083	23
Combined.....	41	5	2,064	3
Size of enrollment				
Less than 300.....	181	20	20,673	27
300 to 999.....	537	59	50,044	64
1,000 or more.....	199	22	7,136	9
Metropolitan status				
City.....	208	23	17,906	23
Urban fringe.....	230	25	18,464	24
Town.....	237	26	19,539	25
Rural.....	242	26	21,944	28
Geographic region				
Northeast.....	162	18	13,935	18
Southeast.....	206	23	16,568	21
Central.....	269	29	23,980	31
West.....	280	31	23,369	30
Percent minority enrollment				
Less than 6 percent.....	266	31	23,750	32
6 to 20 percent.....	219	25	18,036	24
21 to 49 percent.....	192	22	15,698	21
50 percent or more.....	194	22	16,390	22
Percent of students eligible for free or reduced-price school lunch				
Less than 11 percent.....	176	19	13,192	17
11 to 30 percent.....	284	31	21,876	28
31 to 70 percent.....	311	34	28,017	36
71 percent or more.....	143	16	14,651	19

NOTE: Percents may not sum to 100 because of rounding, and details may not add to totals because of rounding for weighted estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995

Table 2.—Percent of public schools having access to selected telecommunication capabilities and the specific location of telecommunications within the school, by capability: 1995

Telecommunication capabilities	Percent of schools having access	Percent of schools reporting their telecommunications locations				
		Administrative offices	Teacher workrooms	Classrooms	Computer labs	Library/media centers
Computers connected to a local area network.....	77	73	20	45	71	64
Computer with modem	76	61	10	30	41	64
Computer with connection or access to a wide area network .	61	58	14	35	41	68
Broadcast television.....	71	35	28	82	47	88
Cable television.....	76	33	25	72	42	91
Closed-circuit television	28	50	32	91	60	89
One-way video with two-way audio or computer link.....	13	24	17	57	37	69
Two-way video and audio	7	26	15	63	41	54

NOTE: Percents of schools reporting telecommunications locations do not sum to 100 because many schools reported access in more than one location. Location estimates are based on those schools that have access to each type of telecommunication capability.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 3.—Percent of public schools having access to various types of computer networks in fall 1994 and fall 1995: 1995

	Percent of schools having access to computer networks	
	1994	1995*
Any type of computer network (i.e., local area network or wide area network).....	75	85
Local area network only.....	26	23
Wide area network.....	49	61
Internet.....	35	50
Other wide area network with no access to Internet.....	14	11

*Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, K-12," NCES 95-731.

Table 4.—Percent of public schools having access to the Internet and the percent of all instructional rooms across the country with Internet access in fall 1994 and fall 1995, by school characteristics: 1995

School characteristic	Percent of schools having access to the Internet		Percent of all instructional rooms across the country with Internet access ¹	
	1994	1995	1994	1995
All public schools.....	35	50	3	9
Instructional level ²				
Elementary.....	30	46	3	10
Secondary.....	49	65	4	8
Size of enrollment				
Less than 300.....	30	39	3	11
300 to 999.....	35	52	3	10
1,000 or more.....	58	69	3	4
Metropolitan status				
City.....	40	47	4	8
Urban fringe.....	38	59	4	8
Town.....	29	47	3	10
Rural.....	35	48	3	10
Geographic region				
Northeast.....	34	59	3	7
Southeast.....	29	44	2	6
Central.....	34	52	3	11
West.....	42	48	5	10
Percent minority enrollment				
Less than 6 percent.....	+	52	+	10
6 to 20 percent.....	+	58	+	11
21 to 49 percent.....	+	54	+	10
50 percent or more.....	+	40	+	5
Percent of students eligible for free or reduced-price lunch				
Less than 11 percent.....	*	62	*	9
11 to 30 percent.....	*	59	*	10
31 to 70 percent.....	*	47	*	8
71 percent or more.....	*	31	*	5

*Data not available.

+Data not currently available.

¹The percent of instructional rooms across the country is based upon the total number of instructional rooms (e.g., classrooms, computer labs, library/media centers) in all regular public elementary and secondary schools.

²Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, K-12," NCES 95-731.

Table 5.—Percent of public schools having access to the Internet by the number and mean number of instructional rooms with Internet access, by school characteristics: 1995

School characteristic	Number of instructional rooms with Internet access					Mean number of instructional rooms with Internet access
	0 rooms	1 room	2-3 rooms	4 rooms	5 or more rooms	
All public schools	7	47	24	4	19	5.0
Instructional level*						
Elementary	7	51	20	4	19	4.7
Secondary	6	39	33	5	17	5.5
Size of enrollment						
Less than 300	10	42	28	4	17	3.8
300 to 999	6	50	22	4	19	5.4
1,000 or more	5	40	30	5	20	4.9
Metropolitan status						
City	7	42	22	6	23	5.0
Urban fringe	6	50	24	2	19	5.2
Town	8	47	21	4	20	5.9
Rural	7	47	28	5	13	4.1
Geographic region						
Northeast	3	54	25	1	17	3.8
Southeast	2	58	22	6	12	4.4
Central	10	41	24	3	22	5.4
West	9	41	24	6	20	5.9
Percent minority enrollment						
Less than 6 percent	12	43	25	3	18	4.7
6 to 20 percent	5	44	20	5	25	6.0
21 to 49 percent	2	48	24	6	20	6.0
50 percent or more	7	51	30	1	11	3.2
Percent of students eligible for free or reduced-price lunch						
Less than 11 percent	3	46	22	4	25	5.3
11 to 30 percent	5	45	24	4	22	6.2
31 to 70 percent	9	46	24	6	14	4.3
71 percent or more	9	56	25	1	8	2.8

*Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

NOTE: Percents may not sum to 100 because of rounding. Percents in this table are based upon the number of schools having access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 6.—Mean number of computers in public schools and the percent of all computers in public schools across the country with Internet access, by school characteristics: 1995

School characteristic	Mean number of computers in public schools	Percent of all computers in public schools across the country with Internet access ¹
All public schools	72	14
Instructional level ²		
Elementary	60	13
Secondary	112	13
Size of enrollment		
Less than 300	41	15
300 to 999	71	15
1,000 or more	164	8
Metropolitan status		
City	84	11
Urban fringe	83	13
Town	72	16
Rural	54	14
Geographic region		
Northeast	63	15
Southeast	87	10
Central	62	15
West	77	13
Percent minority enrollment		
Less than 6 percent	60	17
6 to 20 percent	75	15
21 to 49 percent	77	14
50 percent or more	80	8
Percent of students eligible for free or reduced-price lunch		
Less than 11 percent	77	15
11 to 30 percent	78	15
31 to 70 percent	68	12
71 percent or more	65	10

¹The percent of computers across the country is based upon the total number of computers in all regular public elementary and secondary schools.

²Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, K-12," NCES 95-731.

Table 7.—Percent of public schools having access to the Internet by the number and mean number of computers with Internet access, by school characteristics: 1995

School characteristic	Number of computers with Internet access				Mean number of computers with Internet access
	1 computer	2-5 computers	6-9 computers	10 or more computers	
All public schools	35	38	6	21	12
Instructional level*					
Elementary	40	37	5	18	9
Secondary	25	39	9	27	16
Size of enrollment					
Less than 300	34	42	8	16	7
300 to 999	38	35	6	21	12
1,000 or more	19	45	5	31	15
Metropolitan status					
City	29	39	6	26	11
Urban fringe	38	34	6	22	12
Town	36	35	6	22	14
Rural	36	42	6	16	9
Geographic region					
Northeast	48	299	7	17	11
Southeast	32	49	3	16	10
Central	36	35	6	23	11
West	27	40	8	26	12
Percent minority enrollment					
Less than 6 percent	45	29	6	20	12
6 to 20 percent	25	42	7	26	13
21 to 49 percent	32	40	5	23	13
50 percent or more	32	44	8	16	8
Percent of students eligible for free or reduced-price lunch					
Less than 11 percent	29	38	6	26	14
11 to 30 percent	35	33	7	25	13
31 to 70 percent	40	40	5	15	9
71 percent or more	32	43	4	21	9

*Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

NOTE: Percents may not sum to 100 because of rounding. Percents in this table are based upon the number of schools having access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995

Table 8.—Percent of public schools having access to the Internet, by various types of Internet capabilities and for whom in the school community the capability is available: 1995

Internet capabilities	Available ¹	Members of school community with access to capability ²		
		Administrative staff	Teachers	Students
E-mail	93	91	85	41
News groups.....	73	82	92	51
Resource location services (e.g., Gopher, Archie, Veronica, etc.).....	83	83	92	62
World Wide Web Access (e.g., Browsers, such as Netscape, MOSAIC).....	80	82	92	70

¹Percents in this column are based upon the number of schools having access to the Internet—50 percent of public schools.

²Percents in these columns are based upon the number of schools with the corresponding Internet capability.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 9.—Percent of public schools having access to the Internet, by the extent of wide area network use by members of the school community and by school characteristics: 1995

School characteristic	Members of the school community								
	Administrative staff			Teachers			Students		
	Not at all	Small extent	Moderate or large extent	Not at all	Small extent	Moderate or large extent	Not at all	Small extent	Moderate or large extent
All public schools.....	27	55	18	11	61	28	32	47	21
Instructional level*									
Elementary.....	29	55	16	13	64	23	35	48	17
Secondary.....	23	56	21	8	54	38	27	42	30
Size of enrollment									
Less than 300.....	21	57	22	17	51	32	35	46	18
300 to 999.....	28	55	17	10	64	26	32	47	21
1,000 or more.....	30	54	15	8	60	32	24	48	28
Metropolitan status									
City.....	28	56	15	11	64	24	29	54	23
Urban fringe.....	31	52	17	9	63	28	26	51	21
Town.....	28	56	16	12	61	27	37	42	23
Rural.....	20	57	23	13	55	32	37	41	21
Geographic region									
Northeast.....	33	54	13	11	67	22	35	44	21
Southeast.....	36	56	8	12	67	21	33	50	17
Central.....	26	54	20	14	60	27	27	51	22
West.....	18	57	26	8	54	38	34	42	24
Percent minority enrollment									
Less than 6 percent.....	26	54	20	21	53	26	36	45	19
6 to 20 percent.....	24	54	22	5	62	33	25	50	25
21 to 49 percent.....	31	56	13	4	74	22	31	46	23
50 percent or more.....	26	60	14	12	57	31	36	49	16
Percent of students eligible for free or reduced-price lunch									
Less than 11 percent.....	25	57	18	10	57	33	24	47	30
11 to 30 percent.....	25	50	24	8	63	29	27	49	24
31 to 70 percent.....	30	59	11	16	60	24	41	45	14
71 percent or more.....	26	56	18	10	62	28	33	48	19

*Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

NOTE: Percents may not sum to 100 because of rounding. Percents in this table are based upon the number of schools having access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 10.—Percent of public schools having access to the Internet, by type of wide area network connection and by school characteristics: 1995

School characteristic	Type of connection				
	Modem	SLIP/PPP	56Kb	T1	ISDN
All public schools.....	81	23	10	7	3
Instructional level*					
Elementary.....	82	21	9	6	2
Secondary.....	77	28	13	8	3
Size of enrollment					
Less than 300.....	85	18	9	1	4
300 to 999.....	81	23	11	7	2
1,000 or more.....	76	30	10	12	3
Metropolitan status					
City.....	83	20	9	10	5
Urban fringe.....	80	23	9	7	2
Town.....	82	24	13	6	0
Rural.....	80	23	10	5	4
Geographic region					
Northeast.....	87	22	11	5	2
Southeast.....	86	16	6	8	6
Central.....	78	32	10	7	1
West.....	76	17	14	7	3
Percent minority enrollment					
Less than 6 percent.....	75	28	14	5	3
6 to 20 percent.....	80	21	9	8	1
21 to 49 percent.....	90	21	8	7	4
50 percent or more.....	82	15	7	7	4
Percent of students eligible for free or reduced-price lunch					
Less than 11 percent.....	75	27	18	6	—
11 to 30 percent.....	75	29	10	9	1
31 to 70 percent.....	90	16	7	4	3
71 percent or more.....	80	16	7	9	10

— Less than 1 percent.

*Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

NOTE: Percents do not sum to 100 because some schools reported more than one type of connection. Percents in this table are based upon the number of schools having access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 11.—Percent of public schools having access to the Internet, by type of network administrator and by school characteristics: 1995

School characteristic	Type of network administrator			
	Full-time network administrator	Part-time network administrator	No single individual	District staff
All public schools.....	12	45	20	24
Instructional level*				
Elementary.....	11	41	22	26
Secondary.....	13	52	16	19
Size of enrollment				
Less than 300.....	11	51	16	21
300 to 999.....	13	43	20	24
1,000 or more.....	11	43	22	24
Metropolitan status				
City.....	7	42	24	27
Urban fringe.....	9	43	19	28
Town.....	23	41	14	22
Rural.....	9	52	22	17
Geographic region				
Northeast.....	13	46	23	18
Southeast.....	10	38	25	27
Central.....	13	47	17	23
West.....	11	45	17	27
Percent minority enrollment				
Less than 6 percent.....	15	46	24	15
6 to 20 percent.....	14	41	18	27
21 to 49 percent.....	8	42	19	32
50 percent or more.....	6	53	20	21
Percent of students eligible for free or reduced-price lunch				
Less than 11 percent.....	11	40	23	26
11 to 30 percent.....	18	43	18	21
31 to 70 percent.....	9	49	17	24
71 percent or more.....	5	45	25	25

*Data for combined schools are not reported as a separate instructional level because there were very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

NOTE: Percents may not sum to 100 because of rounding. Percents in this table are based upon the number of schools having access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 12.—Percent of public schools reporting the extent of the formal role that various groups have in developing the school's advanced telecommunications activities: 1995

Various groups	Small or no extent	Moderate extent	Large extent
Students	86	13	2
Teachers/staff	25	37	38
Parents	63	31	7
School district	13	24	63
State education agency	67	19	14
Regional associations	81	13	6
Business leaders	82	14	4
Institutions of higher education	82	13	5
Other community organizations	86	10	3

NOTE: Percents may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 13.—Percent of public schools that do not currently have access to the Internet and their plans to obtain access to the Internet, by school characteristics: 1995

School characteristics	No current Internet access	Planning Internet access in future	Type of access planned			No plans for future Internet access
			Direct	Other WAN	Both	
All public schools.....	50	74	43	20	11	26
Instructional level*						
Elementary.....	54	72	44	20	9	28
Secondary.....	35	80	40	23	17	20
Size of enrollment						
Less than 300.....	61	66	36	18	13	34
300 to 999.....	48	76	44	22	9	24
1,000 or more.....	31	91	68	15	9	9
Metropolitan status						
City.....	53	74	41	18	16	26
Urban fringe.....	41	71	42	21	8	29
Town.....	51	71	39	25	8	29
Rural.....	52	78	49	19	10	22
Geographic region						
Northeast.....	41	64	41	15	9	36
Southeast.....	56	77	43	25	9	23
Central.....	48	69	39	21	8	31
West.....	52	80	47	19	15	20
Percent minority enrollment						
Less than 6 percent.....	48	74	41	20	13	26
6 to 20 percent.....	42	72	55	12	5	27
21 to 49 percent.....	46	77	38	23	16	23
50 percent or more.....	60	68	40	20	8	32
Percent of students eligible for free or reduced-price lunches						
Less than 11 percent.....	38	68	51	10	7	32
11 to 30 percent.....	41	78	41	22	15	22
31 to 70 percent.....	53	72	40	21	11	28
71 percent or more.....	69	75	44	23	7	25

*Data for combined schools are not reported as a separate instructional level because there are very few in the sample. Data for combined schools are included in the totals and in analyses by other school characteristics.

NOTE: Percents in this table are based upon the number of schools that do not have access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 14.—Percent of all public schools indicating the extent to which various factors are barriers to either the acquisition or the use of advanced telecommunications: 1995

Barrier	Minor or no barrier	Moderate barrier	Major barrier
Lack of or poor equipment	37	23	40
Inadequate hardware upkeep and repair	55	22	24
Too few telecommunication access points in building	29	18	54
Problems with telecommunications service provider	74	13	13
Lack of instructional software	52	28	20
Software too complicated to use	79	15	6
Lack of time in school schedule	44	26	30
Telecommunications links not easily accessible	45	19	36
Telecommunications equipment not easily accessible	40	22	37
Lack of technical support or advice	48	27	25
Lack of administrative support or initiative	74	15	11
Lack of or inadequately trained staff	39	33	29
Lack of teacher interest	70	24	5
Lack of teacher awareness regarding ways to integrate telecommunications into curriculum	36	36	28
Lack of student interest	95	4	1
Lack of parent or community interest	81	15	5
Not enough help for supervising student computer use	49	28	23
Concern about student access to inappropriate materials	58	24	18
Funds not specifically allocated for telecommunications	28	18	55
Variability of telecommunications rates from service providers	63	21	16
Use of advanced telecommunications does not fit with the educational policy of this school	93	6	1

NOTE: Percents may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 15.—Percent of public schools currently having access to the Internet by the extent to which various factors are barriers to upgrading or maximizing the use of their advanced telecommunication capabilities: 1995

Barrier	Minor or no barrier	Moderate barrier	Major barrier
Lack of or poor equipment	39	23	38
Inadequate hardware upkeep and repair	60	20	20
Too few telecommunication access points in building	31	18	51
Problems with telecommunications service provider	79	12	9
Lack of instructional software	59	27	14
Software too complicated to use	83	13	4
Lack of time in school schedule	37	26	37
Telecommunications links not easily accessible	48	23	29
Telecommunications equipment not easily accessible	45	25	31
Lack of technical support or advice	49	29	22
Lack of administrative support or initiative	76	16	8
Lack of or inadequately trained staff	37	35	28
Lack of teacher interest	69	25	5
Lack of teacher awareness regarding ways to integrate telecommunications into curriculum	33	37	30
Lack of student interest	95	4	1
Lack of parent or community interest	83	12	4
Not enough help for supervising student computer use	45	31	23
Concern about student access to inappropriate materials	55	26	19
Funds not specifically allocated for telecommunications	33	18	49
Variability of telecommunications rates from service providers	68	18	14
Use of advanced telecommunications does not fit with the educational policy of this school	96	4	(+)

(+) Less than .5 percent.

NOTE: Percents may not sum to 100 because of rounding. Percents in this table are based upon the number of schools having access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 16.—Percent of public schools that do not currently have access to the Internet by the extent to which various factors are barriers to their acquisition of advanced telecommunication capabilities: 1995

Barrier	Minor or no barrier	Moderate barrier	Major barrier
Lack of or poor equipment	35	23	42
Inadequate hardware upkeep and repair	49	23	28
Too few telecommunication access points in building	27	17	56
Problems with telecommunications service provider	68	14	17
Lack of instructional software	45	30	26
Software too complicated to use	76	17	7
Lack of time in school schedule	51	25	24
Telecommunications links not easily accessible	42	15	43
Telecommunications equipment not easily accessible	36	19	44
Lack of technical support or advice	47	26	27
Lack of administrative support or initiative	72	15	13
Lack of or inadequately trained staff	40	30	30
Lack of teacher interest	72	23	5
Lack of teacher awareness regarding ways to integrate telecommunications into curriculum	39	36	26
Lack of student interest	95	3	2
Lack of parent or community interest	78	17	5
Not enough help for supervising student computer use	53	25	22
Concern about student access to inappropriate materials	61	22	18
Funds not specifically allocated for telecommunications	22	17	60
Variability of telecommunications rates from service providers	59	24	18
Use of advanced telecommunications does not fit with the educational policy of this school	90	8	2

NOTE: Percents may not sum to 100 because of rounding. Percents in this table are based upon the number of schools that do not have access to the Internet—50 percent of public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Appendix A
Standard Error Tables

Table 2a.—Standard error of the percent of public schools having access to selected telecommunication capabilities and the specific location of telecommunications within the school, by capability: 1995

Telecommunication capabilities	Percent of schools having access	Percent of schools reporting their telecommunications locations				
		Administrative offices	Teacher workrooms	Classrooms	Computer labs	Library/media centers
Computers connected to a local area network	1.8	1.7	1.5	2.2	1.9	2.0
Computer with modem	1.7	1.9	1.1	1.8	1.6	2.1
Computer with connection or access to a wide area network	2.0	2.3	1.3	2.3	2.5	2.2
Broadcast television	1.4	2.4	2.2	1.5	2.1	1.4
Cable television	1.7	1.7	1.8	1.6	2.1	1.2
Closed-circuit television	1.7	3.3	2.9	1.7	3.1	2.0
One-way video with two-way audio or computer link	1.2	4.1	3.7	4.6	4.6	4.6
Two-way video and audio	0.8	5.6	4.5	5.8	6.1	5.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 3a.—Standard error of the percent of public schools having access to various types of computer networks in fall 1994 and fall 1995: 1995

	Percent of schools having access to computer networks	
	1994	1995
Any type of computer network (i.e., local area network or wide area network).....	1.5	1.4
Local area network only	1.5	1.6
Wide area network	1.5	2.0
Internet	1.5	1.8
Other wide area network with no access to Internet	1.0	1.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, K-12," NCES 95-731.

Table 4a.—Standard error of the percent of public schools having access to the Internet and the percent of all instructional rooms across the country with Internet access in fall 1994 and fall 1995, by school characteristics: 1995

School characteristic	Percent of schools having access to the Internet		Percent of all instructional rooms across the country with Internet access	
	1994	1995	1994	1995
All public schools.....	1.5	1.8	0.3	0.9
Instructional level				
Elementary.....	1.9	2.4	0.4	1.3
Secondary.....	2.4	2.7	0.6	1.1
Size of enrollment				
Less than 300.....	3.4	3.9	0.7	2.4
300 to 999.....	2.0	2.2	0.5	1.3
1,000 or more.....	3.0	4.1	0.6	1.0
Metropolitan status				
City.....	3.1	4.3	0.8	1.7
Urban fringe.....	2.9	3.8	0.8	1.4
Town.....	2.3	3.7	0.6	2.6
Rural.....	2.7	3.8	0.4	1.8
Geographic region				
Northeast.....	3.1	5.3	0.7	1.5
Southeast.....	3.1	3.3	0.3	1.9
Central.....	2.8	3.3	0.8	1.5
West.....	2.6	3.4	0.8	1.6
Percent minority enrollment				
Less than 6 percent.....	+	3.3	+	1.8
6 to 20 percent.....	+	4.4	+	1.7
21 to 49 percent.....	+	4.0	+	2.3
50 percent or more.....	+	3.8	+	1.2
Percent of students eligible for free or reduced-price lunch				
Less than 11 percent.....	*	3.5	*	1.6
11 to 30 percent.....	*	3.6	*	1.7
31 to 70 percent.....	*	2.9	*	1.5
71 percent or more.....	*	4.3	*	1.6

*Data not available.

+Data not currently available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, K-12," NCES 95-731.

Table 5a.—Standard error of the percent of public schools having access to the Internet by the number and mean number of instructional rooms with Internet access, by school characteristics: 1995

School characteristic	Number of instructional rooms with Internet access					Mean number of instructional rooms with Internet access
	0 rooms	1 room	2-3 rooms	4 rooms	5 or more rooms	
All public schools.....	1.1	2.6	1.8	1.2	2.2	0.5
Instructional level						
Elementary.....	1.6	3.5	2.5	1.7	2.9	0.6
Secondary.....	1.9	3.5	3.1	1.2	2.5	0.8
Size of enrollment						
Less than 300.....	3.6	5.3	5.3	2.1	5.3	0.7
300 to 999.....	1.4	3.0	2.2	1.4	2.4	0.6
1,000 or more.....	2.6	4.6	4.2	1.6	4.1	1.1
Metropolitan status						
City.....	3.2	5.6	4.7	3.0	5.5	1.0
Urban fringe.....	2.3	4.6	4.1	0.9	3.4	0.8
Town.....	2.7	5.2	4.2	2.0	4.7	1.4
Rural.....	2.7	4.7	3.6	2.7	3.3	0.7
Geographic region						
Northeast.....	1.8	5.8	5.3	0.6	3.8	0.8
Southeast.....	1.5	5.3	3.9	2.9	3.5	1.2
Central.....	2.9	4.8	4.0	1.4	3.7	0.8
West.....	2.6	5.1	3.5	2.8	3.8	0.9
Percent minority enrollment						
Less than 6 percent.....	3.0	4.7	3.6	1.4	3.5	0.8
6 to 20 percent.....	1.9	4.7	3.6	2.4	4.5	0.8
21 to 49 percent.....	1.4	6.4	4.3	3.0	4.3	1.3
50 percent or more.....	3.2	5.2	5.3	0.8	3.8	0.8
Percent of students eligible for free or reduced-price lunch						
Less than 11 percent.....	2.0	6.0	4.2	1.7	5.0	0.8
11 to 30 percent.....	1.6	4.0	3.2	1.6	3.9	1.0
31 to 70 percent.....	2.5	4.3	3.3	2.2	3.3	0.7
71 percent or more.....	4.6	7.5	6.0	0.6	4.5	0.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 6a.—Standard error of the mean number of computers in public schools and the percent of all computers in public schools across the country with Internet access, by school characteristics: 1995

School characteristic	Mean number of computers in public schools	Percent of all computers in public schools across the country with Internet access ¹
All public schools.....	1.7	1.4
Instructional level ²		
Elementary.....	2.0	1.7
Secondary.....	3.4	1.6
Size of enrollment		
Less than 300.....	2.6	3.2
300 to 999.....	2.0	1.7
1,000 or more.....	6.5	1.1
Metropolitan status		
City.....	3.5	1.6
Urban fringe.....	3.5	2.0
Town.....	3.3	3.2
Rural.....	2.2	2.9
Geographic region		
Northeast.....	3.5	3.2
Southeast.....	4.0	2.3
Central.....	2.7	2.0
West.....	2.8	1.7
Percent minority enrollment		
Less than 6 percent.....	2.7	2.5
6 to 20 percent.....	3.5	2.0
21 to 49 percent.....	4.1	2.6
50 percent or more.....	3.8	1.2
Percent of students eligible for free or reduced-price lunch		
Less than 11 percent.....	4.0	2.2
11 to 30 percent.....	4.1	2.1
31 to 70 percent.....	2.7	1.9
71 percent or more.....	3.8	2.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, K-12," NCES 95-731.

Table 7a.—Percent of public schools having access to the Internet by the number and mean number of computers with Internet access, by school characteristics: 1995

School characteristic	Number of computers with Internet access				Mean number of computers with Internet access
	1 computer	2-5 computers	6-9 computers	10 or more computers	
All public schools.....	2.3	2.1	1.2	2.1	1.0
Instructional level*					
Elementary.....	3.2	2.8	1.5	2.8	1.2
Secondary.....	2.9	3.2	2.3	2.8	2.2
Size of enrollment					
Less than 300.....	6.7	6.6	3.1	4.4	1.6
300 to 999.....	3.1	3.0	1.5	2.7	1.4
1,000 or more.....	4.0	4.8	1.7	4.1	2.2
Metropolitan status					
City.....	4.5	5.5	2.7	4.3	1.7
Urban fringe.....	4.4	4.6	2.4	4.0	1.9
Town.....	5.2	4.9	2.3	4.7	2.8
Rural.....	5.1	4.9	2.2	3.5	1.9
Geographic region					
Northeast.....	5.3	4.9	2.4	3.8	2.6
Southeast.....	5.5	5.8	2.0	3.8	2.5
Central.....	5.1	4.1	2.2	3.3	1.7
West.....	4.2	4.7	2.4	4.5	1.8
Percent minority enrollment					
Less than 6 percent.....	4.9	4.0	2.7	3.4	1.9
6 to 20 percent.....	4.7	4.9	2.1	4.5	1.9
21 to 49 percent.....	5.2	5.8	3.7	5.8	2.7
50 percent or more.....	6.3	6.3	1.3	3.6	1.2
Percent of students eligible for free or reduced-price lunch					
Less than 11 percent.....	4.8	3.9	2.6	4.5	2.1
11 to 30 percent.....	5.0	3.4	1.9	3.9	2.1
31 to 70 percent.....	4.3	4.4	1.7	3.1	1.8
71 percent or more.....	7.7	8.5	2.9	5.5	1.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.

Table 8a.—Standard error of the percent of public schools having access to the Internet, by various types of Internet capabilities and for whom in the school community the capability is available: 1995

Internet capabilities	Available	Members of school community with access to capability		
		Administrative staff	Teachers	Students
E-mail.....	1.3	1.4	1.7	2.6
News groups.....	1.9	2.1	1.7	3.1
Resource location services (e.g., Gopher, Archie, Veronica, etc.).....	2.2	2.4	1.5	3.0
World Wide Web Access (e.g., Browsers, such as Netscape, MOSAIC).....	1.8	2.2	1.6	2.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57, 1995.